REMARKS

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

Claims 18-36 are presently active in this case. Claims 1-17 were cancelled by a previous amendment. The present Amendment amends Claim 27, and adds new Claim 36 without introducing any new matter.

In the outstanding Office Action, the drawings were objected to under 37 C.F.R. 1.83(a). Claims 18-35 were rejected under 35 U.S.C. § 102(b) as being anticipated by Rosenberg et al. (U.S. Patent Publication No. 2002/0109668, hereinafter "Rosenberg").

In response to the objection to Figs. 1a to 1c as not showing every feature recited in the claims, Applicants respectfully traverse the objection and request reconsideration thereof. In Applicants' Figs. 1a to 1c, on each axis of the ordinates referenced with "f" for force, a horizontal line is represented with the description f_{hold} and $f_{max,}$ representing a hold force. Moreover, it is apparent that this indicated force value is higher than any of the forces within the range between the internal V_{min} and V_{max} on the abscissa. Therefore, Applicants' Claim 18 feature "the predetermined hold force value being larger than the interaction feedback force within said inverted damping operation mode" is clearly represented in Figs. 1a to 1c.

In addition, Figs. 1a and 1c are focusing on the description of *different velocity dependencies* for the absolute value f of the interaction feedback force, to describe the inverted damping operation mode. (Specification, p. 9, ll. 1-3, and ll. 21-25.) In addition, Applicants' specification clearly explains in these passages that "[o]utside the given interval v_{min}, v_{max}, i.e., for comparable small velocities v the absolute value of the interaction feedback force IFF is set to a relative high value f_{hold} or f_{max}." Therefore, to be consistent with the specification and Applicants' Figures, f_{hold} and f_{max} are marked on the ordinate of Figs. 1a-1c, and are not drawn as a bold line between 0 to v_{min} of the abscissa, because f_{hold}

Figs. 1a-1c, and are not drawn as a bold line between 0 to v_{min} of the abscissa, because f_{hold} and f_{max} are substantially constant values that do not depend on different velocities in the range from 0 to v_{min}.

In light of the above discussion, Figs. 1a to 1c clearly show all the elements that are claimed in Applicants' independent Claims 18 and 35, and therefore it is respectfully requested that the objection to the drawings be withdrawn.

New Claim 36 is added to vary the scope of protection of the claims. New Claim 36 depends from independent Claim 35, and recites features that were previously introduced by dependent Claims 24 and 27. No new matter has been added. In addition, dependent Claim 27 is amended to delete "and a linear function."

In response to the rejection of Claim 18 under 35 U.S.C. § 102(b), Applicants respectfully traverse the rejection, and request reconsideration thereof, as next discussed.

Briefly summarizing, Applicants' Claim 18 is directed to a method for operating a haptic interface unit. The method includes, *inter alia*: providing an inverted damping operation mode; and ***providing a holding force mode in which an absolute force value of the interaction feedback force*** or a vectorial component thereof ***is increased in a position dependent form to a predetermined hold force value or above***, if the respective velocity or a vectorial component thereof decreases below a given threshold minimum velocity value, ***the predetermined hold force value being larger than the interaction feedback force within said inverted damping operation mode***.

As explained in Applicants' specification in a non-limiting example, by increasing the force to a comparable high force f_{hold} or f_{max} than in the inverted damping mode when the velocity is slow, the user can have the impression that for relative small velocities below v_{min} a finger or limb of the user who is operating the haptic device will be fixed and held to a predetermined position. (Specification, p. 9, ll. 35-37.) The user can also break out of this

mode by applying a force that is bigger than the holding force f_{hold} or f_{max} (Specification, p. 6, ll. 8-14.)

Turning now to the applied reference, Rosenberg is directed to a method of controlling haptic feedback to enhance navigation of a cursor 206 in a graphic display environment. (Rosenberg, Abstract, Fig. 2.) Rosenberg explains that one of the haptic effects that is produced is an attractive/repulsive force, so that a user can be biased to move the user object 34 towards the target. (Rosenberg, p. 6, ¶ [0052], ll. 1-6, Figs. 1 and 2.) Rosenberg also discussed that the haptic feedback can depend on a distance between the cursor 206 and the target 201. (Rosenberg, p. 6, ¶ [0052], ll. 10-14, Figs. 1 and 2.) With respect to Rosenberg's Fig. 5c, a functional graph 320 is shown, where a feedback force is represented as a function of the velocity of the cursor. (Rosenberg, Fig. 5c, reference numerals 320, 322, 334, and 326.) Rosenberg recites that "[f]or a first section 322 of the described function, at low velocities in the range from zero to a first velocity threshold V1, the gain is at 1, so that the haptic strength is normal." (Rosenberg, ¶ [0081], ll. 3-6.) Moreover, Rosenberg details that starting from velocity threshold V1, the feedback force linearly decreases. But Rosenberg clearly fails to teach all the features of Applicants' independent Claim 18. In particular, Rosenberg fails to teach:

> providing a holding force mode in which an absolute force value of the interaction feedback force... is increased in a position dependent form to a predetermined hold force value or above ... the *predetermined hold force value being larger than the interaction feedback force within said inverted damping operation mode*.

(Claim 18, portions omitted, emphasis added.) It is clear from Rosenberg's Fig. 5c and the description in his paragraph [0081] that the feedback force at low velocities *is not larger* than any feedback force within the interval of the velocities V1 to V2 the inverted damping operation mode. To the contrary, as shown in Rosenberg's Fig. 5c, the feedback force at velocity V1 in section 324 is same as the feedback force in his first section 322.

Therefore, <u>Rosenberg</u> clearly does not teach a holding force mode in which an absolute force value of the interaction feedback force is increased in a position dependent form to a predetermined hold force value, as required by Claim 1, because at decreasing velocities, according to <u>Rosenberg</u>, the feedback force will simply not be further increased, but *maintained at the same value* of threshold velocity V1, at gain equal to 1. In other words, if <u>Rosenberg</u>'s haptic cursor is standing still, and a user starts moving the object 34 of the haptic device with constantly increasing velocity, there will be no sudden change in feedback force at the velocity V1, since his Fig. 5c shown a continuous graph for feedback forces.

Therefore, the cited passages of the applied reference <u>Rosenberg</u> fail to teach every feature recited in Applicants' Claim 18, so that Claims 1-34 are believed to be patentably distinct over <u>Rosenberg</u>. Moreover, Applicants' independent Claim 35 recites features that are analogous to the above discussed features of independent Claim 18. For example, independent Claim 35 recites a "holding force mode in which an absolute force value of the interaction feedback force… is increased in a position dependent form, *in a step fashion, to a predetermined hold force value.*" (Claim 35, portions omitted, emphasis added.) Accordingly, Applicants respectfully traverse, and request reconsideration of the rejection based on <u>Rosenberg</u>.[1]

Applicants also respectfully submit that <u>Rosenberg</u> fails to teach all the features of Applicants' dependent claims. For example, dependent Claims 27 and 36 recite features related to a piecewise positive and monotonically decreasing function that is one of a step function, and a staircase function. <u>Rosenberg</u> merely shows linear function in his representations of Figs. 5a-5c, and no step function or staircase function are shown.

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[1] See MPEP 2131: "A claim is anticipated <u>only if each and every</u> element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference," (Citations omitted) (emphasis added). See also MPEP 2143.03: "All words in a claim must be considered in judging the patentability of that claim against the prior art."

Therefore, Applicants also traverse the rejection of the dependent claims, and request

reconsideration thereof.

Consequently, in view of the present amendment, no further issues are believed to be

outstanding in the present application, and the present application is believed to be in

condition for formal allowance, and an early action favorable to that effect is earnestly

solicited.

Should the Examiner deem that any further action is necessary to place this

application in even better form for allowance, the Examiner is encouraged to contact

Applicants' undersigned representative at the below listed telephone number.

Respectfully submitted,

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